STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL | 97-017

INSTRUCTIONS

1. The preparing activity must complete blocks 1,2, 3, and 8. In block 1, both the document number and revision letter should be given.
2. The submitter of this form must complete blocks 4, 5, 6, and 7.
3. The preparing activity must provide a reply within 30 days from receipt of the form.

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I RECOMMEND A CHANGE:	1. DOCUMENT NUMBER MIL-STD-2500A	2. DOCUMENT DATE (YYMMDD) 941012

3. DOCUMENT TITLE
National Imagery Transmission Format (Version 2.0)

4. NATURE OF CHANGE *(Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.)*

Paragraphs: 5.3.1, 5.3.2 and 5.3.3 (See attached).

Postscript does not allow image masking or transparent pixels. Therefore, when Blocked image masking or Transparent pixel masking are used all symbols and labels shall be above all images.

NOTE: While this change will have minimal impact on my system, I believe this will have some cost and schedule impact on most other systems. If other systems rely on a CGM rectangle to provide a background color or border this change will have a larger impact than those that simply allow CGM behind images in all cases. Those systems that rely on a CGM rectangle should now make use of the BCKGDA controlled TAG (approved by the NITF NTB March 1997.)

5. REASON FOR RECOMMENDATION
This change remedies an incompatibility with Postscript printers. Postscript does not allow image masking or transparent pixels.

6. SUBMITTER

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5.3.1 Image product/file relationships. Though the concept of an image product may include multiple files in the future, it is expected that typical applications will represent an image product in a single file. Within each image product the image with the lowest display level is the base image. Each image product shall comprise one base image plus associated data. If a base image is present, it shall form the basis for using the other data contained in the product. Images other than the base image are inset images. Inset images contained in the product are intended to be referenced to the base image, possibly by their placement (via the ILOC field of the image subheader) relative to the base image or by visual cues provided by symbols and labels. All other images (the "inset"images), symbols, and labels are expected to define overlays to the base image in the sense that, when displayed, they will overwrite the base image. The relative visibility, when displayed, of the various displayable items in the file is recorded in the file by use of the display level (the "DLVL" field in the standard data type subheaders, specifically IDLVL for images, SDLVL for symbols, and LDLVL for labels). ***The relative visibility changes when any image contains Blocked image masking or Transparent pixel masking (See paragraphs 5.5.1.3 and 5.5.1.4 below). When Blocked image masking or Transparent pixel masking are used all symbols and labels shall be above all images. (This is because of an incompatibility with Postscript printers.Postscript does not allow image masking or transparent pixels.)*** Groupings of related items may be formed by use of the attachment level (the "ALVL" field in the standard data type subheaders, specifically IALVL for images, SALVL for symbols, and LALVL for labels). The aggregate of the data items in an NITF file, including extended data as described in 5.9, should be regarded as constituting a single image-based product. Although loose aggregations of items of the various supported data types having no particular relationship to one another could be put into an NITF file, this use of the format would conflict with the motivations behind the NITF development. Use of the format in such a way is strongly discouraged.

5.3.2 Overlays and display level. The order in which images, symbols, and labels are "stacked" visually when displayed shall be determined by their display level (the DLVL field in the standard data type subheaders, specifically IDLVL for images, SDLVL for symbols, and LDLVL for labels), not by their relative position within the NITF file. *The display order changes when any image contains Blocked image masking or Transparent pixel masking (See paragraphs 5.5.1.3 and 5.5.1.4 below).* ***When Blocked image masking or Transparent pixel masking are used all symbols and labels shall be above all images. (This is because of an incompatibility with Postscript printers. Postscript does not allow image masking or transparent pixels.) In other words, the display order will remain the same between all images. Also, the display order will remain the same between all combined labels and symbols. But all images shall be changed to display before all labels and symbols***. The display level is a positive integer less than 1000. Every image, symbol, and label in an NITF file shall have a unique display level. That is, no two items may have the same display level. This requirement allows display appearance to be independent of data processing order.

5.3.3 Display level interpretation. The display level determines the display precedence of images, symbols, and labels when they are output to a display device. That is, at any pixel location shared by more than one image, symbol, or label, the value displayed there is that determined from the item with the highest numbered display level. An example is provided on figure 4. Figure 4 illustrates a sample "output presentation" from an NITF file that illustrates the effects of display level assignment. The Display Level (DL) of each item shown on figure 4 is indicated in the list of items on figure 4, where the list is in the order that the items were placed in the NITF file containing them. In the case shown, the item with display level one is not an image but rather an opaque CGM rectangle (symbol data, not image data). Because the CGM rectangle is larger than the base image (which, in this case, serves as the first overlay because its display level is two), it providesa border to the base image. Following increasing DL value, the border is overlaid by the exploited image which, in turn, is overlaid by arrow one, which is in turn overlaid by the image inset, which is over laid by the label, which is over laid by the arrow label, etc. It is emphasized again that data are not displayed in the same sequence in which they appear in the NITF file. The AL values in the list refer to "Attachment Levels" these are described next. ***Please note this method of placing a CGM rectangle behind the base image to provide a border will not work, and is not allowed, if any imagecontains Blocked image masking or Transparent pixel masking (see paragraph 5.3.2 above). In that case the system should use the BCKGDA controlled TAG (approved by the NITF NTB March 1997.)***